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**DIRECT TESTIMONY**

**OF**

**Thomas D. Gatlin**

**ON BEHALF OF**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY**

**DOCKET NO. 2004-002-E**

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION  
WITHIN SOUTH CAROLINA ELECTRIC AND GAS COMPANY (SCE&G).**

A. My name is Thomas D. Gatlin. My business address is P.O. Box 88, Jenkinsville, South Carolina. I am employed by SCE&G as the Manager of Operations at the Virgil C. Summer Nuclear Station (VCSNS).

**Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND  
PROFESSIONAL EXPERIENCE.**

A. I received a BS degree in Electrical Engineering from the Christian Brothers University in Memphis, TN in 1980. I am a licensed Professional Electrical Engineer in the state of SC, and completed the NRC license requirements as a Senior Reactor Operator at VC Summer in 1985.

As for my professional experience, I worked in the Tennessee Valley Authority nuclear power program for two years prior to my employment at VC Summer Nuclear Station in 1982. I have worked in several Operations, Engineering, and Maintenance fields including Shift Engineering, Independent Safety Engineering Group, Probabilistic Risk Analysis Principle Engineer, Operations Support Supervisor, Operations Supervisor. I was promoted to Manager of Operations in Feb. 2001.

RETURN DATE: OK RNG  
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1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

2 A. The purpose of my testimony is to review the operating performance of the VCSNS  
3 during the period from March 1, 2003 through February 29, 2004.

4 **Q. WHAT ARE YOUR OBJECTIVES IN THE OPERATION OF VCSNS?**

5 A. Our primary objective is always safe operation. Our business objectives are to provide  
6 competitively priced power while maintaining the highest degree of safety. We strive for  
7 excellence in all phases of operation of the facility and continuously meet or exceed all  
8 Nuclear Regulatory Commission (NRC) requirements and Institute of Nuclear Power  
9 Operations (INPO) standards.

10 **Q. WHAT HAS BEEN THE COMPANY'S EXPERIENCE WITH THE**  
11 **PERFORMANCE OF THE VCSNS?**

12 A. VCSNS has performed well during the review period. Consistent with the provisions of  
13 § 58-27-865 (S.C. Code of Laws, as amended), the net capacity factor for the plant  
14 during this period, excluding a planned refueling outage, planned power reductions, and  
15 other reasonable reduced power operations activities was 99.5 %. The station's strong  
16 focus on safety, maintaining equipment reliability, training, and human performance has  
17 resulted in excellent plant performance.

18 **Q. WERE THERE ANY OUTAGES DURING THIS PERIOD?**

19 A. Yes. We did perform a routine refueling outage in October of 2003. Refueling outages  
20 are scheduled every 18 months to replace depleted fuel assemblies, and to conduct  
21 maintenance and testing that cannot be done with the plant on line. The VCSNS reactor  
22 core has 157 fuel assemblies, and in each outage one third of those are replaced with  
23 fresh assemblies. During the October outage, which is our fourteenth, we completed over

1 4900 different maintenance or test activities. As part of the routine maintenance, the need  
2 for some additional generator work was identified which extended the 36 day schedule an  
3 additional 10 days. Testing is done to verify all systems are performing as designed, and  
4 will remain reliable for the next 18 months.

5 **Q. WHEN WILL THE NEXT REFUELING OUTAGE OCCUR?**

6 A. The next refueling outage is planned to start on April 15, 2005.

7 **Q. WHAT IS YOUR CURRENT RANKING BY THE NRC AND INPO?**

8 A. The mission of the Institute of Nuclear Power Operations, or INPO, is to promote the  
9 highest levels of safety and reliability in the operation of nuclear electric  
10 generating plants. INPO rated the performance at VCSNS as exemplary. Industry  
11 standards of excellence were met in many areas, and no significant weaknesses were  
12 noted.

13 VCSNS was also rated within the Licensee Response Column of the NRC's Action  
14 Matrix, which denotes the NRC's most favorable rating level for a nuclear power plant.  
15 This rating was based on all inspection findings being classified as having very low  
16 safety significance and all Performance Indicators at a level requiring no additional NRC  
17 oversight during the review period. Due to this rating, the NRC currently implements  
18 only its baseline inspection program at VCSNS.

19 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

20 A. Yes.

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**DIRECT TESTIMONY**  
**OF**  
**GENE G. SOULT**  
**ON BEHALF OF**  
**SOUTH CAROLINA ELECTRIC & GAS COMPANY**  
**DOCKET NO. 2004-002-E**

**Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION WITH SOUTH CAROLINA ELECTRIC & GAS COMPANY (SCE&G).**

A. Gene G. Soutl, 111 Research Drive, Columbia, South Carolina. I am employed by South Carolina Electric & Gas Company as General Manager of Fossil and Hydro Operations Services.

**Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND AND YOUR BUSINESS EXPERIENCE.**

A. I have a B. A. S. in Management from Troy State University of Troy, Alabama and a Masters in Business Administration from Webster University. SCE&G employed me in June 1981, as a Control Room Foreman at V.C. Summer Nuclear Station. In October 1981, I became a Shift Supervisor at V.C. Summer Nuclear Station and continued to progress through the V.C. Summer management chain to ultimately become the General Manager, Nuclear Plant Operations in 1991. In 1992, I assumed the position of General Manager, Quality for SCE&G. In 1993, I became Manager, Cope Generating Station and maintained that position through construction, startup and initial commercial operation. In June 1997, I became General Manager, Technical Services in the Fossil/Hydro Division of SCE&G. Most recently, in January 2000, I assumed my current position of General Manager, Fossil & Hydro Operations. In this position, I report to the Vice President of Fossil & Hydro Operations.

1     **Q.     WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

2     A.     The purpose of my testimony is to review the operating performance of South Carolina  
3           Electric & Gas Company's fossil units and GENCO's Williams Station during the  
4           period March 1, 2003, through February 29, 2004. I will also briefly discuss the  
5           purchase of natural gas for use in our combustion and combined cycle turbines.

6     **Q.     PLEASE GIVE A SHORT DESCRIPTION OF SCE&G'S FOSSIL AND HYDRO**  
7           **ELECTRIC FACILITIES.**

8     A.     SCE&G owns and/or operates eighteen (18) fossil fuel (coal and gas) generating plants  
9           and six (6) hydroelectric generating plants. The total net summer generating capability  
10          rating of these facilities is 4,236 megawatts.

11    **Q.     PLEASE EXPLAIN TO THE COMMISSION SOUTH CAROLINA**  
12          **GENERATING COMPANY ("GENCO") AND ITS RELATIONSHIP TO**  
13          **SCE&G.**

14    A.     South Carolina Generating Company, Inc., ("GENCO") was incorporated October 1,  
15          1984, as a SCANA subsidiary. GENCO owns the Williams Electric Generating Station.  
16          GENCO sells to SCE&G the entire capacity and output from the Williams Station under  
17          a Unit Power Sales Agreement approved by the Federal Energy Regulatory  
18          Commission. Hereafter when I refer to SCE&G's fossil steam plants I include GENCO.

19    **Q.     HOW MUCH ELECTRICITY WAS GENERATED BY SCE&G IN THE**  
20          **TWELVE MONTH REVIEW PERIOD?**

21    A.     In the review period, SCE&G generated 23,100,100 megawatt hours of energy. Of this  
22          energy, our fossil steam plants generated 70%, gas peaking turbines and hydro facilities  
23          generated 9 % and our nuclear plant generated 21%. Exhibit \_\_\_\_ (GGS-1) provides a  
24          graphic display of how our generation met this review period's energy demand.

25    **Q.     PLEASE SUMMARIZE THE PERFORMANCE OF THE FOSSIL UNITS.**

1 A. Overall, SCE&G's fossil units have operated efficiently and dependably in the twelve-  
2 month period of March 1, 2003 through February 29, 2004.

3 Our fossil units have operated better than the North American Electric Reliability  
4 Council ("NERC") national 5 year (1998-2002) average for forced outage rates and  
5 with reasonable heat rates. These measures will be covered later in my testimony.

6 **Q. PLEASE DISCUSS SCE&G'S PLANNED OUTAGES FOR THE PERIOD UNDER**  
7 **REVIEW.**

8 A. Outages were scheduled and completed at Wateree units #1 and 2, McMeekin #1 and 2,  
9 and Williams. The Wateree outages (Unit 1 in the Spring of 2003 and Unit 2 in the Fall  
10 of 2003) were scheduled to complete the installation of selective catalytic reactors  
11 (SCRs) to reduce NOx emissions required by the Clean Air Act and the Environmental  
12 Protection Agency's (EPA) State Implementation Plan (commonly referred to as SIP  
13 Call). New air heaters and economizer ash systems were also installed during this time.  
14 Additionally some major boiler tubing replacement in the reheat and arch tube sections  
15 and a turbine overhaul were conducted on Unit 1. The McMeekin units were scheduled  
16 off in the fall of 2003 to complete phase 1 of the tie in of new cooling water piping as  
17 part of the construction of the new backup Saluda Dam. McMeekin Unit 1 Low  
18 Pressure Turbine inspection was also performed. Williams Station was scheduled off  
19 during the spring of 2003 to modify the economizer and install new ID fans in  
20 preparation for the installation of an SCR in 2004. Williams Station also re-tubed their  
21 main condenser, and replaced several boiler tube sections.

22 **Q. WHAT HAS BEEN SCE&G'S SYSTEM FORCED OUTAGE RATE FOR THE**  
23 **PERIOD UNDER REVIEW?**

24 A. SCE&G experienced a system forced outage rate of 2.04% in the review period.  
25 "Forced outage rate" is the percentage of the total hours that generating units are forced

1 out of service (for various reasons) compared with the total hours in service for a  
2 period. The North American Electric Reliability Council ("NERC") national 5 year  
3 (1998-2002) average for forced outage rate for similarly sized units is 5.07 %.

4 **Q. PLEASE DISCUSS THE AVAILABILITY OF SCE&G'S FOSSIL PLANTS**  
5 **DURING THE REVIEW PERIOD.**

6 A. SCE&G had an availability of its fossil plants of 84.19% for the review period.  
7 Availability is a measure of the actual hours that the generation units are available  
8 (overall readiness to provide electricity) divided by the total hours in the 12-month  
9 review period. Availability is not affected by how the unit is dispatched or by the  
10 demand from the system when connected to the grid. However, it is impacted by the  
11 planned and maintenance shutdown hours. The North American Electric Reliability  
12 Council ("NERC") national 5 year (1998-2002) average for availability from similar  
13 sized pulverized coal fired units was 86.71%. SCE&G's availability was slightly lower  
14 than the NERC national 5-year average due to the timing and duration of the normal  
15 planned and maintenance shutdown hours associated with equipment maintenance  
16 outages and environmental compliance investments. However, during the peak period,  
17 June 1, 2003 thru September 30, 2003, SCE&G operated at an availability of 94.5%.

18 **Q. WHAT HAS BEEN THE HEAT RATE OF THE FOSSIL UNITS DURING THE**  
19 **REVIEW PERIOD?**

20 A. Heat rate is a way to measure thermal efficiency of a power plant fuel cycle. It is the  
21 number of BTU's of fuel required to generate one (1) kilowatt-hour of electricity.  
22 The combined steam units heat rate for the period March 1, 2003 through February 29,  
23 2004 is 9655 Btu/kWh. Cope Station had the best heat rate in our system at 9281  
24 Btu/kWh followed by McMeekin Station at 9398 Btu/kWh. In the November 2003  
25 issue of *Electric Light & Power*, SCE&G was recognized by having two of its plants  
26 listed in the top 20 most energy efficient coal fired plants in the nation for 2002. Cope

1 Station ranked 10<sup>th</sup> at 9415 Btu/kWh and Williams Station ranked 18<sup>th</sup> at 9602  
2 Btu/kWh. In that issue, Cope was listed as the 8<sup>th</sup> best in the nation in the list of the top  
3 20 cleanest coal-fired power plants ranked by SO2 emission rates. Also, in this issue,  
4 Cope Station ranked 19<sup>th</sup> in capacity factor at 89.8%.

5 **Q. HOW IS NATURAL GAS PROCURED FOR THE COMBUSTION AND**  
6 **COMBINED CYCLE TURBINES?**

7 A. SCE&G contracts with South Carolina Pipeline Corporation (SCPC) to procure natural  
8 gas for our combustion turbine generators in accordance with SCPC's standard  
9 interruptible contract. SCE&G also contracts with SCPC for 50,000 DTH of firm  
10 natural gas per day for use in our Urquhart Combined Cycle Units. This is a contract  
11 that was previously approved by the Commission. Gas amounts above the firm rate are  
12 supplied through the standard interruptible contract supplied by SCPC.  
13 SCE&G will shortly finalize an agreement with SCANA Energy Marketing, Inc (SEMI)  
14 to supply 120,000 DTH of firm gas for our new Jasper Facility. Mr. Steve Cunningham  
15 will discuss this agreement.

16 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

17 A. Yes.



**South Carolina Electric & Gas  
2003 Generation Mix**

